



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

RHUS COTINOIDES, NUTT.

BY CHARLES MOHR.

Since its discovery by Nuttall, in the year 1819, in Arkansas, and twenty-three years later by Prof. Buckley, in North Alabama, this tree has not been found by any other botanist, and our knowledge of it remained fragmentary and obscure.

After having been lost to the botanical world for fully forty years, its re-discovery and observation in the various stages of its growth was deemed of sufficient interest to be made a special object in my investigation of the forest growth of the Gulf region for the Tenth Census. To this end, several trips were made to the southern declivity of the Cumberland Mountains as they descend upon the valley of the Tennessee River in Madison County, Ala. On the 21st of September, a successful search for the Baily farm was made, where, in the mountains near by, Prof. Buckley found the tree in the beginning of April, 1841.¹ This place is situated near the base of a bold mountain range rising to a height of 900-1000 feet above the Tennessee River.

The sight of my botanizing capsule dimly recalled to the present owner, the Professor's visit at his father's, but he had no conception of its object. He informed me that there is a small tree found in abundance in the low foothills skirting the valley, yielding a yellow wood used for dyeing, which he considered to be the tree I was in search of; and as fine specimens could be obtained nearer by, the trouble of hauling them down the mountain could be avoided.

Great was my disappointment when the *Rhamnus Carolinianus* was pointed out to me as the yellow wood. I felt quite relieved by the forthcoming statement that there was another kind of the yellow wood found on the rocky benches near the summit of the mountain, of which his father brought down a stick over 30 years ago, to serve, on account of its strength and durability, as a cross-piece to the rack used in his slaughter-pen. On a closer examination it was found to be a kind of timber I had never seen before, and after an exposure for such a length of time was perfectly solid, sound, and to all appearances as durable as ever. No time was

¹ Proceed. Acad. Nat. Science of Phila., June, 1881.

lost now in looking for its source on the mountain. The lower flanks of the range, less steeply inclined, with a rich, deep soil, are almost entirely under cultivation; the steep incline above the clearings, with its rock-covered ground, supports a fine forest of Mountain Oaks (*Quercus Prinus*), Chestnuts, Black Ash (*Fraxinus quadrangulata*), Elm (*Ulmus Americana*), Maples (*Acer saccharinum* var. *nigrum*), Mocker-nuts (*Carya tomentosa*), interspersed with copses of Red Cedar (*Juniperus Virginiana*), with a dense undergrowth of trees of smaller size; Plums (*Prunus Americana*), Black Haws (*Viburnum prunifolium*), Hornbeam (*Carpinus Americana*), and various shrubs, *Rhus aromatica*, *Forestiera ligustrina*, etc. The heavy outcrops of this mountain limestone form on the steep declivity extensive ledges, and terrace-like shelves traversed by shallow ravines—their fragments, which cover the ground, making the access to these woods quite difficult. It was upon this rocky soil, amongst its varied forest vegetation, that the coveted object of my search was found growing. Not more than half a dozen trees of the same kind were found in this locality, scattered along one of the rocky ravines, measuring from 25–35 feet in height. The largest one felled measured 35 feet in length and 12 inches in diameter one foot above the ground.

Arrived at such dimensions, the tree has evidently long passed the best period of its life, judging from the decay by which, more or less, the trunk was found affected. No sign of a decline, however, could be observed in the vigor of its vegetation.

The trunk divides at a height from 12 to 14 feet above its base; the primary limbs are erect, the secondary branches widely spreading, often slightly reclining, smooth and divide into numerous divaricate reddish branchlets rugose from the base of the leaf-stalks of the previous season. The bark is rough, covered with a whitish gray epidermis of a deep chestnut-brown underneath, and exfoliating in oblong square scales of uniform size. The inner bark is white, exposed to the air turning rapidly to a deep yellow color, and exudes, when bruised, a resinous sap of a heavy, disagreeable terebinthinous odor. The wood is heavy, very compact, of a fine grain; the white sap wood of small proportion surrounds, as a narrow ring, the deep yellow hard wood, variegated by zones of different shades of brown, imparting to it a beautiful appearance when polished.

The leaves are from $2\frac{1}{2}$ to 6 inches long, from $1\frac{1}{2}$ to 3 inches

wide, broadly ovate, obtuse, slightly emarginate, and attenuate at the base, with a strong mid-rib prominent; primary veins of a purplish color, sparsely pubescent while young; perfectly smooth later in the season; of a bright green, with a soft, glaucous hue. The panicle is open, 8 to 12 inches long, and almost as wide, with horizontally-spreading branches, which, like the common peduncle, are smooth, subtended like its crowded, numerous ultimate divisions by marcescent, finally deciduous lanceolate bracts. The flower-bearing pedicels are erect, one inch or over in length, and sparsely hirsute. The shorter, almost capillary abortive divisions, are gracefully received and bent, densely plumose by long spreading jointed hairs of a purplish tint.

Flowers perfect, minute; calyx deeply five-parted, the lanceolate lobes veined and with a mid-rib little over one-half the length of the persistent, greenish white ligulate petals, which are inserted between the sepals and the thin, broad purplish disk. Stamens short. Ovary with 3 short lateral styles. Drupe hard, oblique, semi-obcordate, $\frac{1}{8}$ inch by its largest diameter; the coriaceous brownish epicarp prominently veined and reticulated, investing closely the tough testa. Cotyledons accumbent.

The inner bark and wood are used for dyeing yellow, and it is said, also, for the production of purple tints. On this point, however, no definite information could be obtained.

Large numbers of trees were cut down during the war to procure a dyestuff much valued at the time, and full-grown ones are now quite scarce near the settlements. On account of the beauty of its wood, the tree is called Shittim-wood by the negroes, they believing it to be same which was used in the construction of the tabernacle in Solomon's Temple. The wood permits of the finest finish; the fineness of its grain, beauty of color and its hardness fit it well for inlaid work, veneering, and the manufacture of smaller articles of all kinds of fancy woodwork.

As an ornamental tree it far surpasses the European species, and will be found quite as hardy.

On the 3d of May it was found almost past blooming, a few belated flowers allowed the examination of its floral organs. On the 29th, it had fully ripened its fruit, the panicle had begun to dry up, and its pedicels were already a prey to wind and weather. In searching for the flowering tree, extensive coppices were found on the southern slope of Mount Sano, east of Huntsville, the second

growth from numerous stumps of full-grown trees cut down during the last half century, to serve as kindling-wood. Its resinous wood burning easily with a bright flame, this rare and interesting tree is constantly sacrificed to such low purposes wherever found easy of access. Within the narrow limits to which it is confined, it would be doomed to rapid extinction if it were not for the production of numerous rapidly-growing sprouts, giving rise to a copious second growth. It produces seeds but sparingly, all efforts to produce seedlings or young trees for transplanting failed. It seems to be easily propagated by layers, judging from some accidentally prostrated limbs, which, where in contact with the ground, were found rooting.

As observed in this state, this tree appears principally confined to the southern declivities of the mountains, from the northern border of the valley of the Tennessee, and *strictly* to the habitat described. It was never found on the sandstone cliffs which but a short distance higher up overlay the limestone strata, nor lower down the mountain sides, where the soil is deep and rich. According to Prof. Buckley, stunted specimens were first seen by him near Ditto's Landing, on the southern bank of the stream. The writer failed to meet it in his travels through the mountain region bordering south upon the basin of the Tennessee River. It is said to extend northward into the State of Tennessee, following the flanks of the Cumberland Mountains in their northeastern trend.